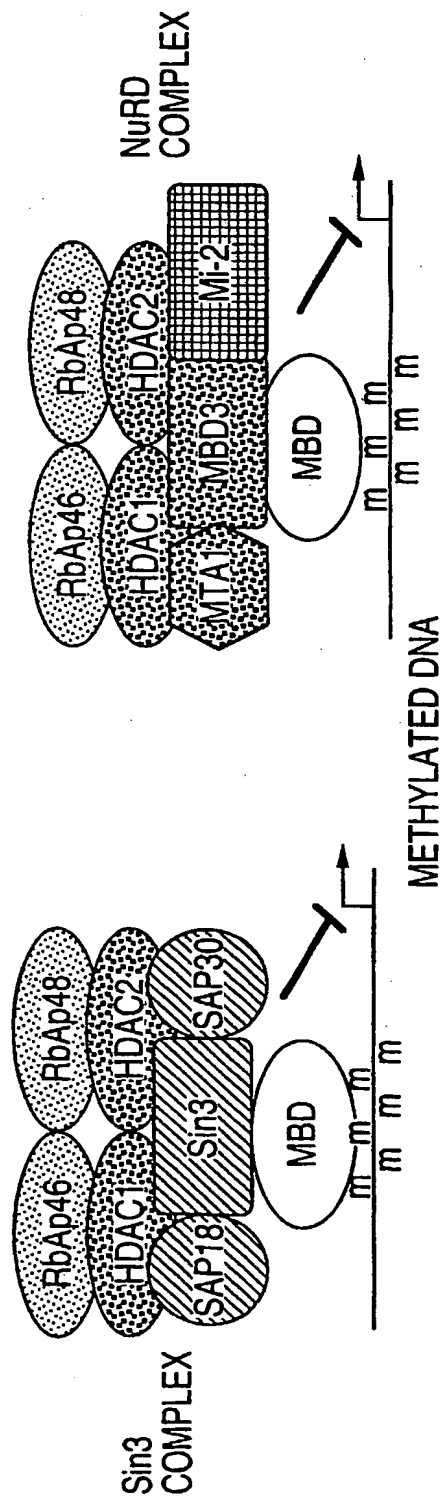


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FIG. 1

THE ROLE OF MBD2/MBD3 IN METHYLATION-DEPENDENT TRANSCRIPTIONAL REPRESSION

- MBD2 AND MeCP2 ASSOCIATE WITH Sin3, A KNOWN CORE COMPONENT IN REPRESSOR COMPLEXES
- MBD3 IS A CORE COMPONENT OF THE NuRD REPRESSOR COMPLEX
- MBD3 AND MBD2 ASSOCIATE *in vitro*
- MBD2 IS A COMPONENT OF THE MeCP1 REPRESSOR COMPLEX



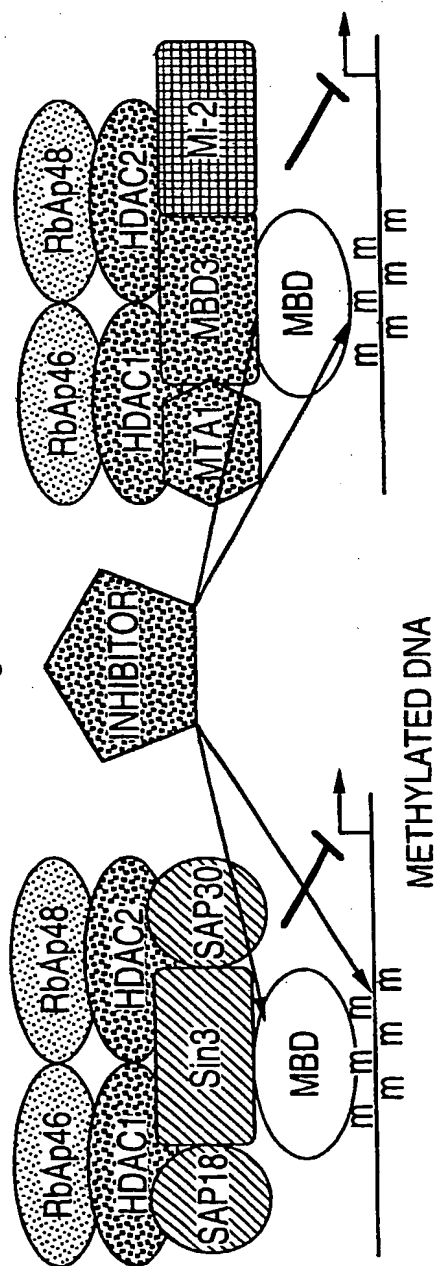
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FIG. 2

METHYLATION AS A PHARMACOLOGICAL TARGET

- 5-aza-2' deoxycytidine
-Inhibits DNA methylation
- Potential Inhibition of MBD proteins
 - Alternative to inhibiting DNA methylation
 - Would this cause gene reactivation?



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FIG. 3

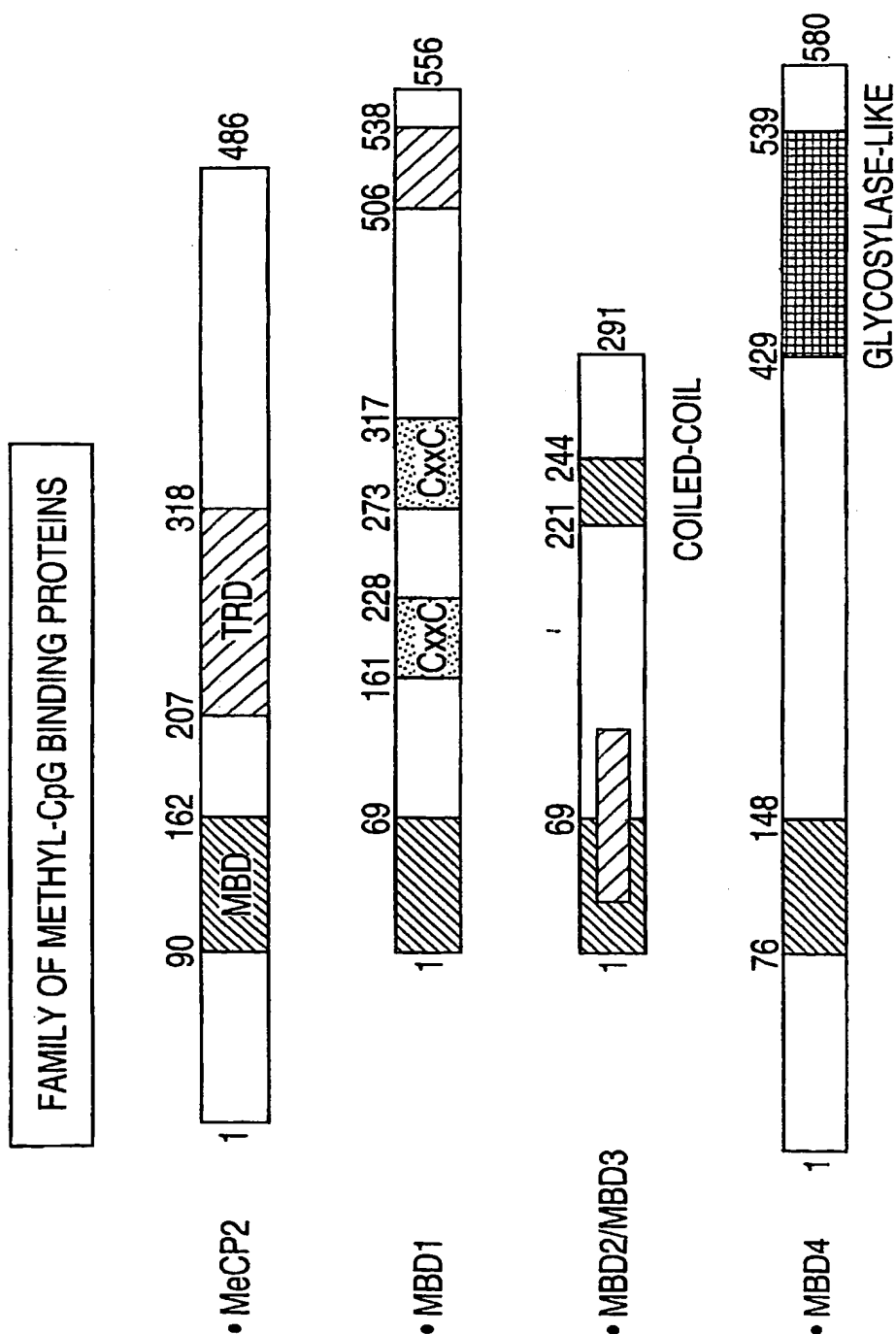
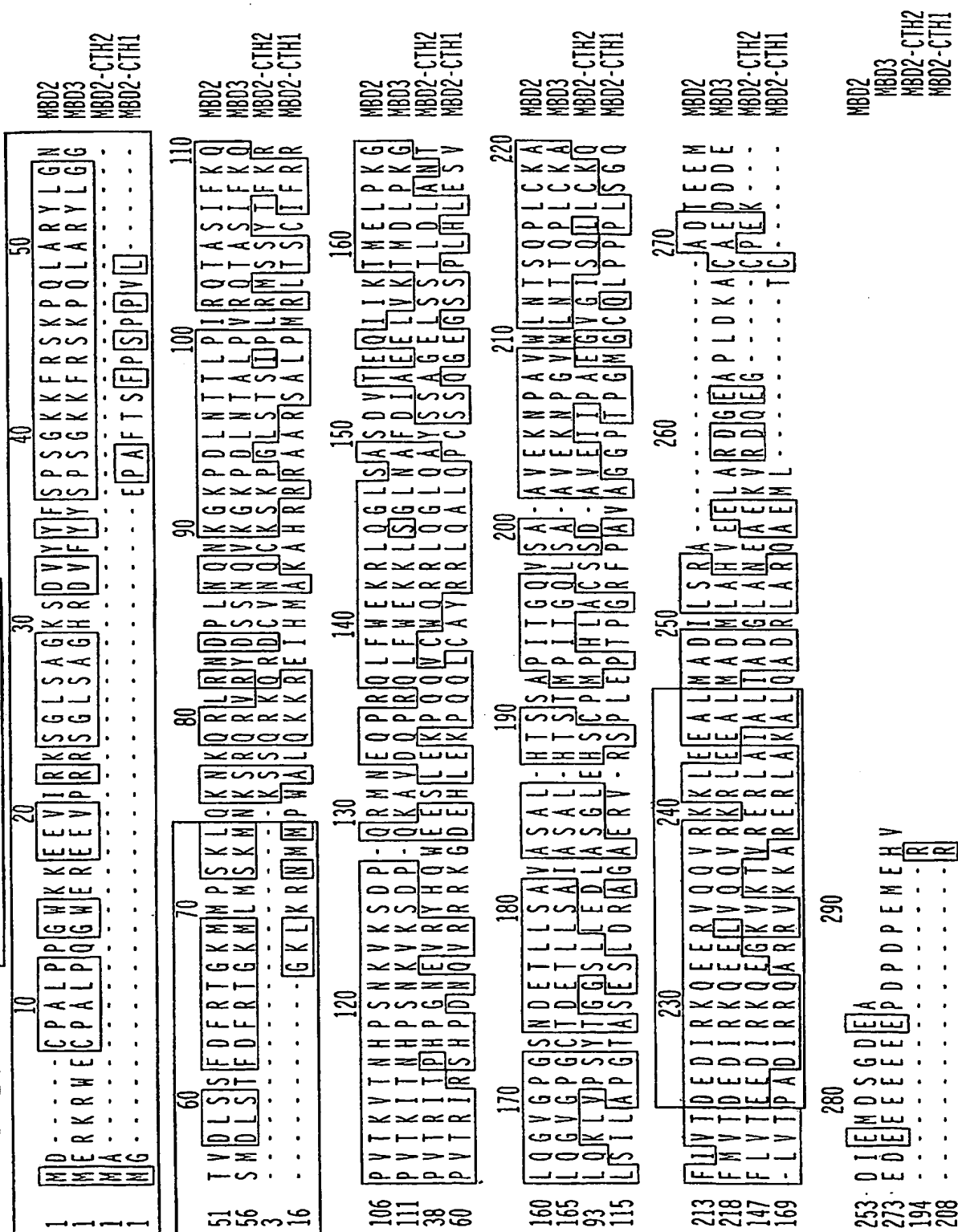
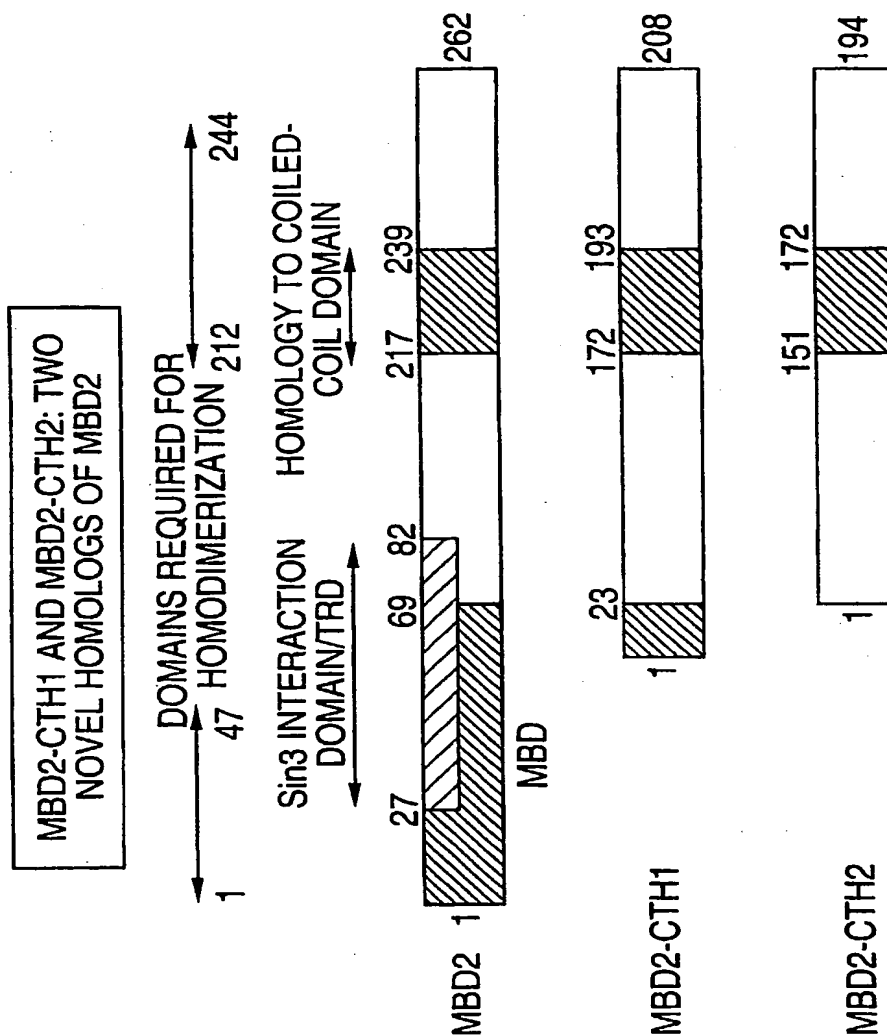


FIG. 4



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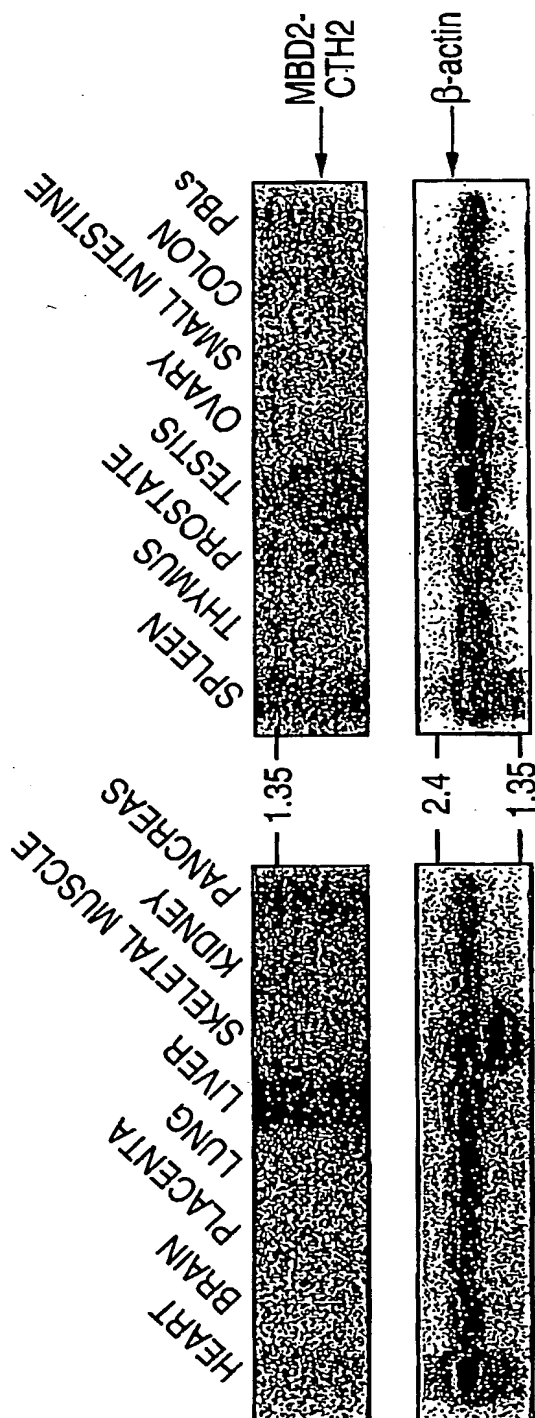
FIG. 5



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FIG. 6

MBD2-CTH2 RNA IS EXPRESSED IN TESTIS

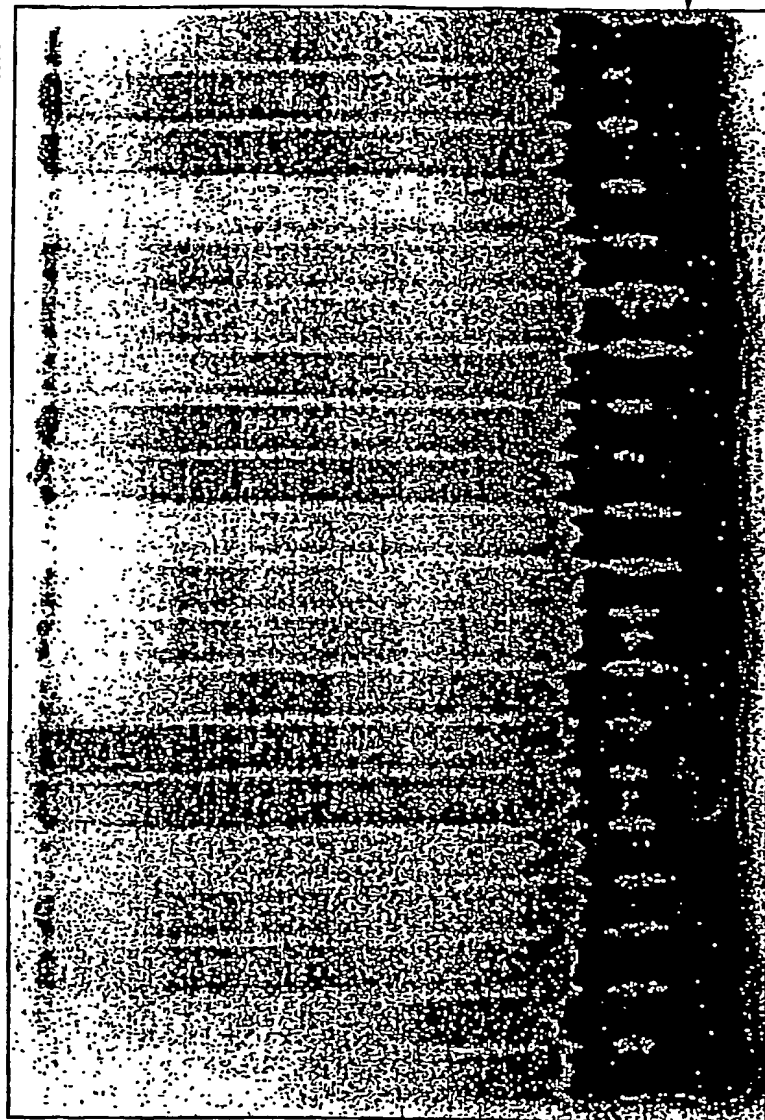


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FIG. 7

MBD2-CTH1 AND MBD2-CTH2 DO NOT BIND
 METHYLATED DNA

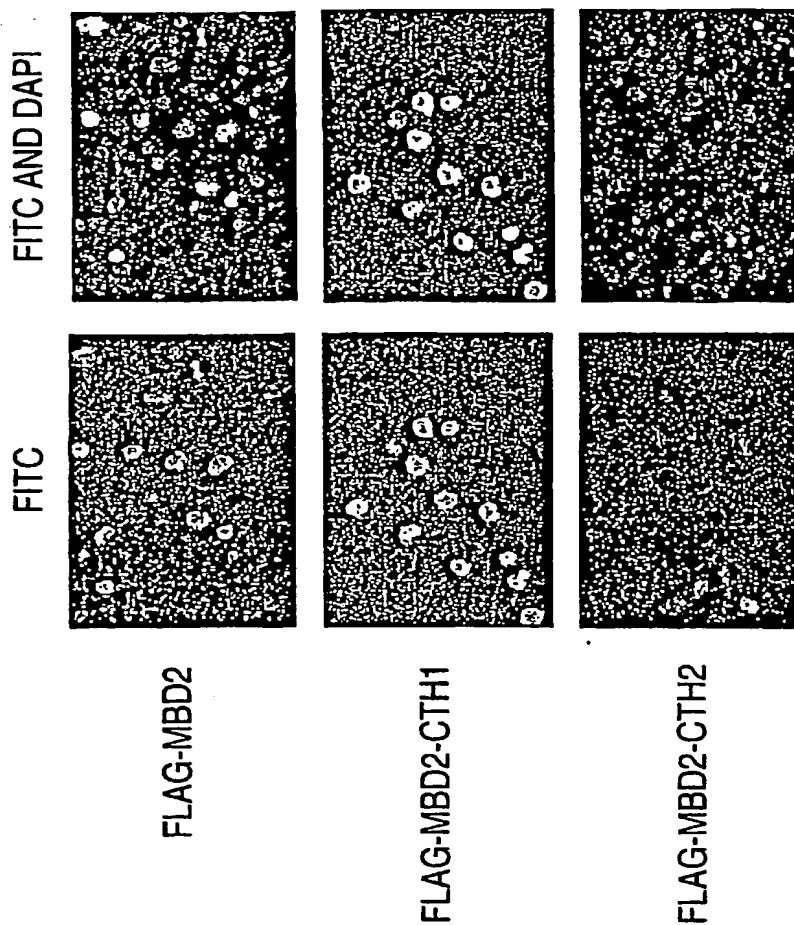
	Myc-MBD2				Myc-MBD2-CTH1				Myc-MBD2-CTH2				
	M+	M-	+	-	M+	M-	+	-	M+	M-	+	-	
METHYLATION	-	+	-	-	+	-	-	-	+	-	-	-	M+
ANTI-MYC	+	-	+	+	+	-	+	+	+	-	+	+	M-
COMPETITOR	M-	M-	M+	M+	M-	M-	M+	M+	M-	M-	M+	M+	



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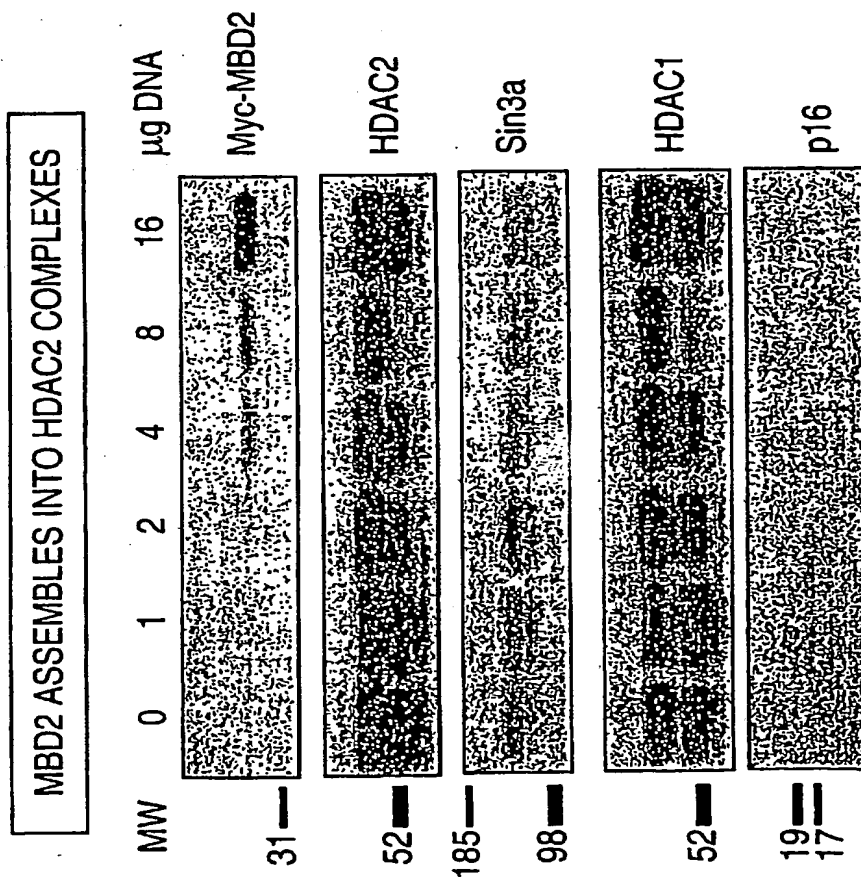
FIG. 8

MBD2-CTH1 AND MBD2-CTH2 LOCALIZE TO THE NUCLEUS



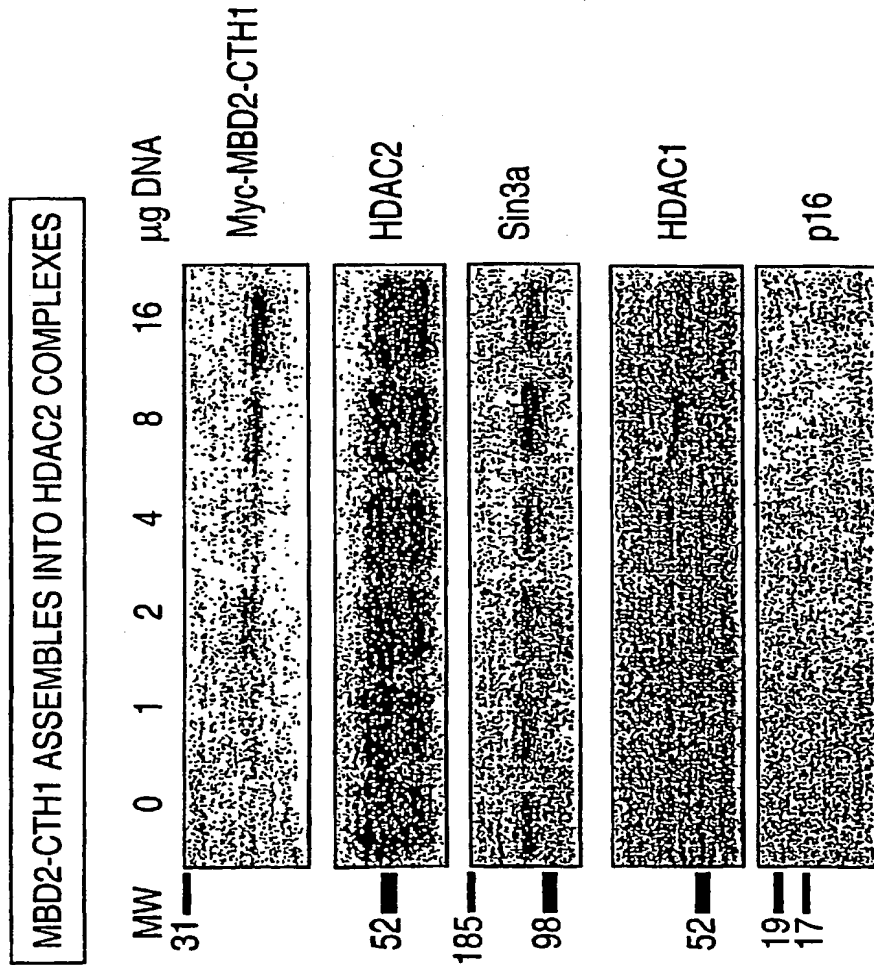
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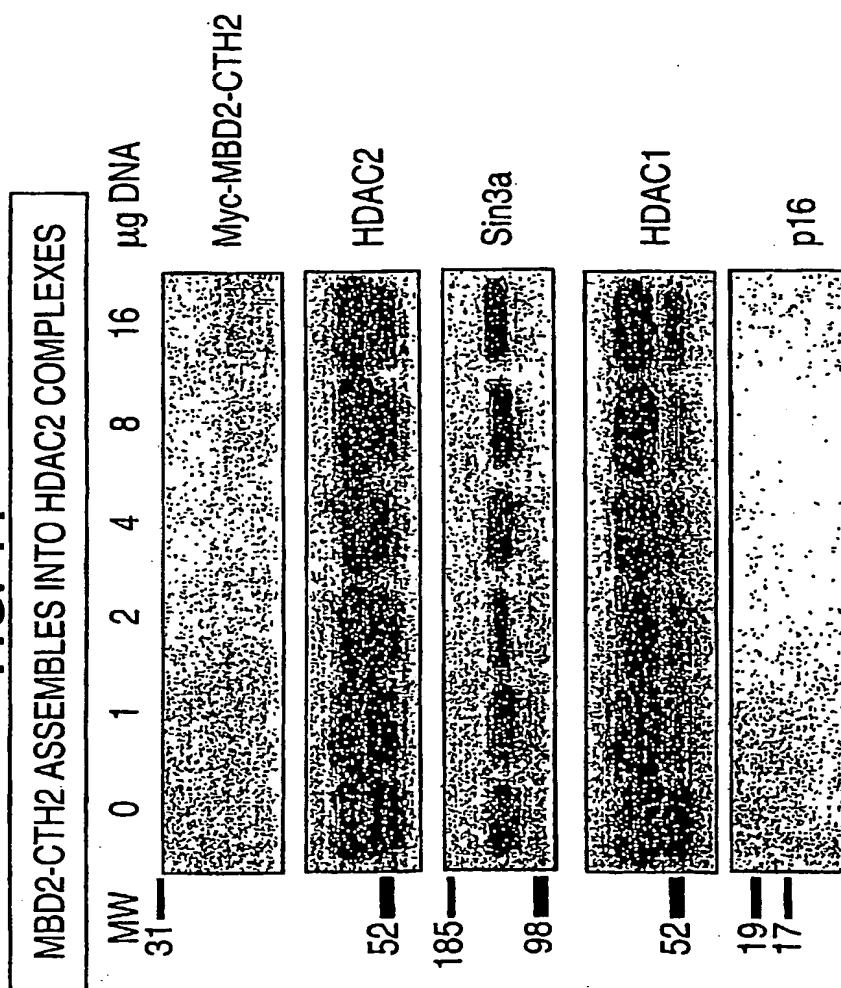
FIG. 9



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FIG. 10





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FIG. 12

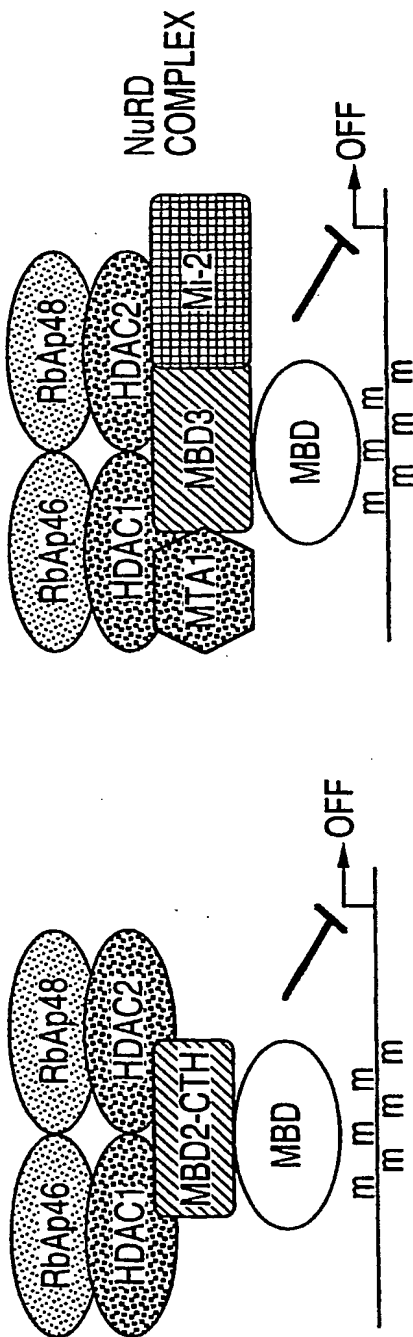
SUMMARY FOR MBD2-CTH1 AND MBD2-CTH2

- BOTH HAVE SEQUENCE HOMOLOGY TO THE C-TERMINUS OF MBD2, BUT LACK COMPLETE MBDS.
- MBD2-CTH2 EXPRESSED IN TESTIS.
- BOTH LOCALIZE TO THE NUCLEUS.
- BOTH DO NOT BIND METHYLATED DNA DIRECTLY.
- BOTH ASSEMBLE INTO HDAC2 REPRESSOR COMPLEXES.

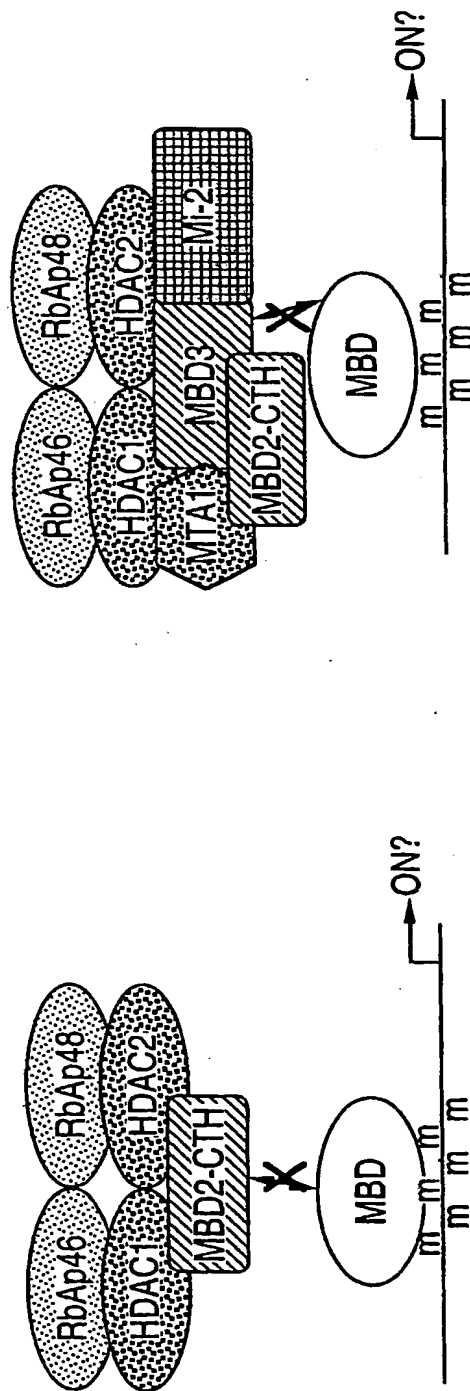
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FIG. 13

MBD2-CTH1 AND MBD2-CTH2 MAY BE COMPONENTS
OF REPRESSOR COMPLEXES



MBD2 HOMOLOGS AS DOMINANT NEGATIVE INHIBITORS



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